

## REMARKS

In the office action mailed August 12, 2004, claims 1, 5, 7 - 10, 14, 16 - 19, 21 and 22 were rejected under 35 U.S.C. §103(a) over European Patent No. 0,905,879 (to Herzinger) in view of U.S. Patent No. 6,208,875 (to Damgaard et al.), and claims 2, 3, 11, 12 and 20 were rejected under §103(a) over Herzinger in view of Damgaard et al. and U.S. Patent No. 5,130, 670 (to Jaffe).

The office action initially states that applicant's amendment to claim 1 filed May 24, 2004 is unclear. Applicant amended the claim to add a semicolon after the second occurrence of the word "operation" on line 12 of the amended claim.

Formal drawings are also being submitted herewith including the changes that have been previously approved.

Independent claim 1 stands rejected over Herzinger in view of Damgaard. The office action recognizes that Herzinger does not teach dual band operation, and states that Damgaard teaches dual band operation by selecting the output of a mixer to be either  $RF_{OUT} - RF_{LO}$  or  $RF_{LO} - RF_{OUT}$ . The office action then concludes that it would have been obvious to select the output of the mixer of Herzinger to  $RF_{OUT} - RF_{LO}$  or  $RF_{LO} - RF_{OUT}$  for dual band operation,

Applicant, however, is not simply claiming dual band operation where the output is either  $A + B$  or  $A - B$  in a generic sense. Applicant has discovered a specific frequency plan that relies on the **first frequency divider** that provides a divide by  $m$  function and the **second frequency divider** that relies on the divide by  $n$  function to achieve an output that may be expressed as  $F_{LO} = F_{OUT} / (1 \pm m/n)$ . Although the Damgaard reference discloses a circuit that provides dual band operation in which  $RF_{OUT} - RF_{LO}$  or  $RF_{LO} - RF_{OUT}$ , it discloses achieving this in a very different way. As stated in the Declaration of Robert Broughton filed on May 24, 2004, the Damgaard

reference discloses achieving dual band operation by using a tunable VCO 71, one of two VCOs 57 or 59, one of two VCOs 111 or 113, and a filter 104 to remove the signal that is not being used (Broughton Declaration, ¶7. The Damgaard reference, therefore, does not disclose, teach or suggest the use of a **divide by  $m$**  frequency divider and a **divide by  $n$**  frequency divider to achieve the dual band operation (Broughton Declaration, ¶9).

In the office action, the examiner discounts applicant's logic, and concludes that the references teach dual band operation where the output is either  $A + B$  or  $A - B$  in a generic sense. The office action does not explain how these references allegedly teach or suggest dual band operation wherein the frequency plan is **derived from first and second frequency dividers  $m$  and  $n$**  respectively. Applicant, on the other hand, has submitted a sworn statement explaining why a circuit of claim 1 is not taught or suggested by any combination of the above references (Broughton Declaration, . ¶¶ 8 - 17). Again, applicant is not simply claiming the use of two frequency dividers and dual band operation where the output is either  $A + B$  or  $A - B$  in a generic sense. Applicant is claiming the use of a specific frequency plan that is different that the dual frequency plan of Damgaard Applicant submits that there is no teaching or suggestion in the above references for achieving dual band operation by using the **first and second frequency dividers** (as opposed to tuning or switchable between VCOs).

Applicant submits, therefore, that claim 1 is allowable. Each of claims 2, 3, 5 and 7 - 9 depends directly or indirectly from claim 1 and is also submitted to be in condition for allowance.

Independent claims 10 and 19 also each require a first frequency divider that provides a divide by  $m$  function and a second frequency divider that relies on the divide by  $n$  function, and provides an output that may be expressed as  $F_{LO} = F_{OUT} / (1 \pm m/n)$ . For the reasons stated

above, each of claims 10 and 19 is also considered to be in condition for allowance. Each of claims 11, 12, 14 and 16 - 18 depends directly or indirectly from claim 10, and each of claims 20 - 22 depends directly from claim 19.

Each of claims 1 - 3, 5, 7 - 12, 14 and 16 - 22, therefore, is in condition for allowance.  
Favorable action consistent with the above is respectfully requested.

Respectfully submitted,



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